

CLAIMS

What is claimed is:

1. A system for accessing a plurality of access technologies

comprising:

5 a transceiver configured to communicate via a network protocol;

a premises device configured to communicate via a premises protocol; and

an access device configured to communicate with the transceiver and the

premises device using the plurality of access technologies to receive

a communication, to dynamically determine an access technology

10 type for the communication from among the plurality of access

technologies, to reformat the communication for another access

technology type, and to transmit the communication.

2. The system of claim 1 wherein the access device comprises:

a network interface configured to communicate via the network protocol

15 with the transceiver;

a service hub configured to communicate via the premises protocol with

the premises device; and

a central core configured to dynamically determine the access technology

type and to reformat the communication.

20 3. The system of claim 1 wherein the access device is configured to

support voice service and data service.

4. The system of claim 3 wherein the access device is configured to dynamically map voice service to a first access technology and to dynamically map data service to a second access technology.

5. The system of claim 1 wherein the access device is configured to receive the communication from the transceiver and to transmit the communication to the premises device.

6. The system of claim 1 wherein the access device is configured to receive the communication from the premises device and to transmit the communication to the transceiver

10 7. The system of claim 1 wherein the access device is configured to communicate with the transceiver using at least one member of a group comprising a wireline access technology and a wireless access technology.

15 8. The system of claim 1 wherein the access device is configured to communicate with the transceiver using at least one member of a group comprising asynchronous digital subscriber line, single line digital subscriber line, high bit-rate digital subscriber line, very high data rate digital subscriber line, cable television, multipoint multichannel distribution service, local multipoint distribution system, personal communications service, a satellite link, internet protocol, and asynchronous transfer mode.

20 9. The system of claim 1 wherein the access device is configured to communicate with the premises device using at least one member of a group comprising a wireline access technology and a wireless access technology.

10. The system of claim 1 wherein the access device is configured to communicate with the premises device using at least one member of a group comprising asynchronous digital subscriber line, single line digital subscriber line, high bit-rate digital subscriber line, very high data rate digital subscriber line, cable television, 5 personal communications service, plain old telephone service, internet protocol, and asynchronous transfer mode.

11. The system of claim 1 wherein the access device is configured to format the communication according to at least one member of a group comprising a signal format, a frame format, an access standard, an access protocol, and a medium 10 access control emulation.

12. The system of claim 11 wherein the signal processing comprises at least one member of a group comprising coding, decoding, modulation, demodulation, filtering, and applying multimedia processing.

13. The system of claim 12 wherein the modulation comprises at least 15 one member of a group comprising quadrature amplitude modulation, quaternary phase shift keying, orthogonal frequency division multiplexing, and carrierless amplitude and phase modulation.

14. The system of claim 12 wherein the demodulation comprises at least 20 one member of a group comprising quadrature amplitude modulation, quaternary phase shift keying, orthogonal frequency division multiplexing, and carrierless amplitude and phase modulation.

15. The system of claim 11 wherein the frame format comprises at least one member of a group comprising an internet protocol format, an asynchronous transfer mode format, a high level data link control format, an ethernet format, a synchronous optical network format, and at least one digital signal level format.

5 16. The system of claim 11 wherein the access protocol comprises at least one member of a group comprising asynchronous digital subscriber line, single line digital subscriber line, high bit-rate digital subscriber line, very high data rate digital subscriber line, wide area network, local area network, code division multiplex access, time division multiplex access, multipoint multichannel distribution service, local 10 multipoint distribution system, personal communication service, time division duplex, frequency division duplex, and Bluetooth.

17. The system of claim 11 wherein the access standard comprises at least one member of a group comprising IEEE 802.11a, IEEE 802.11b, IEEE 802.16, IEEE 802.16a, IEEE 802.16b, IEEE 802.3, ETSI HIPERMAN, Bluetooth, simple 15 workflow access protocol, home phone line networking alliance, and data over cable service interface specifications.

18. A system for accessing a plurality of access technologies comprising:

a network interface configured for network access;

a service hub configured for premises device access; and

5 a central core configured to communicate using a plurality of access technologies, to process a communication for a first one of the access technologies, to select a port from the network interface or the service hub, and to generate the communication for transmission from the port.

10 19. The system of claim 18 wherein the network interface is configured with at least one member of a group comprising a wireless port and a wireline port.

20. The system of claim 18 wherein the network interface further is configured to receive the communication via the network access, and the network interface comprises a dynamic identifier configured to dynamically identify an access 15 technology type of the communication.

21. The system of claim 18 wherein the network interface is configured to receive the communication from the central core and to direct the communication to the port for transmission.

22. The system of claim 2 wherein the service hub is configured with at 20 least one member of a group comprising a wireless port and a wireline port.

23. The system of claim 18 wherein the service hub further is configured to receive the communication via the premises device access and the service hub

comprises a dynamic identifier configured to dynamically identify an access technology type of the communication.

24. The system of claim 18 wherein the service hub is configured to receive the communication from the central core and to direct the communication to the 5 port for transmission.

25. The system of claim 18 wherein the service hub comprises a premises interface comprising a plurality of physical interfaces, each physical interface configured for communication for a different one of the access technologies.

26. The system of claim 24 wherein at least one of the physical 10 interfaces comprises at least one member of a group comprising an RJ11 port, an RJ14 port, an RJ45 port, an ethernet port, a plain old telephone service port, an xDSL port, a radio frequency port, and an optical port.

27. The system of claim 18 wherein the central core is configured to process a plurality of communications, each having a different one of the access 15 technologies.

28. The system of claim 18 wherein:
the central core is configured to format the communication for the first
access technology, to transmit the communication to the service hub,
and to transmit a control signal to the service hub identifying the first
20 access technology; and

the service hub is configured to receive the communication and the control signal and to direct the communication to the port corresponding to the first access technology.

29. The system of claim 18 wherein

5 the central core is configured to format the communication for the first access technology, to transmit the communication to the network interface, and to transmit a control signal to the network interface identifying the port corresponding to the first access technology; and the network interface is configured to receive the communication and the control signal and to direct the communication to the port corresponding to the first access technology.

30. The system of claim 18 wherein

10 the service hub is configured to receive the communication, to identify the communication as having the first access technology, to transmit the communication to the central core, and to transmit a control signal to the central core identifying the first access technology; and the central core is configured to receive the communication and the control signal and to format the communication from the first access technology to a second one of the access technologies.

15 20 The system of claim 30 wherein

the central core further is configured to transmit the communication to the network interface and to transmit another control signal to the

network interface identifying the port that corresponds to the second access technology; and

the network interface is configured to receive the communication and the other control signal and to direct the communication to the port corresponding to the second access technology.

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32. The system of claim 18 wherein

the network interface is configured to receive the communication, to identify the communication as having the first access technology, to transmit the communication to the central core, and to transmit a control signal to the central core identifying the first access technology; and

the central core is configured to receive the communication and the control signal and to format the communication from the first access technology to a second one of the access technologies.

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15 33. The system of claim 32 wherein

the central core further is configured to transmit the communication to the service hub and to transmit another control signal to the service hub identifying the port that corresponds to the second access technology; and

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the service hub is configured to receive the communication and the other control signal and to direct the communication to the port corresponding to the second access technology.

34. The system of claim 18 wherein the central core comprises a specifications database configured to store specifications for the plurality of access technologies.

35. The system of claim 34 wherein the specifications database is 5 configured to receive a control signal requesting a specification for a selected access technology and, in response, to transmit the specification in another control message.

36. The system of claim 18 wherein the central core comprises a controller configured to control formatting for the communication.

37. The system of claim 31 wherein the controller is configured to 10 receive a control signal from at least one member of a group comprising the service hub and the network interface, the control signal identifying the access technology, and to control removing formatting from the communication according to the access technology.

38. The system of claim 36 wherein the controller is configured to 15 generate a control signal to at least one member of a group comprising the service hub and the network interface, the control signal identifying the access technology with which the communication was formatted and via which the communication is to be transmitted.

39. The system of claim 18 wherein the central core comprises an access protocol formatter configured to format the communication for an access protocol.

40. The system of claim 39 wherein the access protocol formatter is 20 configured to remove access protocol formatting for a selected access protocol from a received communication and to format an outgoing communication with other access protocol formatting for another selected access protocol.

41. The system of claim 40 wherein the access protocol formatter further is configured to transmit a control signal to the controller identifying the selected access protocol of the received communication.

42. The system of claim 18 wherein the central core comprises a framing 5 formatter configured to format at least one frame for the communication with frame formatting.

43. The system of claim 42 wherein the framing formatter is configured remove the frame formatting from the received communication and to format an outgoing communication with other frame formatting.

10 44. The system of claim 43 wherein the framing formatter further is configured to transmit a control signal to the controller identifying the frame formatting of the received communication.

45. The system of claim 18 wherein the central core comprises a signal formatter configured to process the communication with a selected signal process.

15 46. The system of claim 45 wherein the signal formatter is configured remove the signal formatting from the received communication and to add other signal formatting for an outgoing communication.

20 47. The system of claim 46 wherein the signal formatter further is configured to transmit a control signal to the controller identifying the signal formatting of the received communication.

48 A system for accessing a plurality of access technologies

comprising:

a specifications database configured to store specifications for the plurality of access technologies, each specification comprising at least one member of a group comprising an access protocol format, a framing format, and a signal format;

5 a controller configured to retrieve a selected specification for a selected access technology from the specifications database, to process the selected specification to identify formatting for the communication, and to generate at least one control signal identifying the formatting for the communication;

10 an access protocol formatter configured to format the communication for the access protocol format when instructed by the controller via the control signal;

15 a framing formatter configured to format the communication for the framing format when instructed by the controller via the control signal; and

a signal formatter configured to format the communication for the signal format when instructed by the controller via the control signal.

20 49. The system of claim 48 wherein:

the controller is configured to generate another control signal to the specification database requesting the selected specification for the selected access technology; and

the specification database is configured to receive the other control signal and, in response, to transmit the specification to the controller.

50. The system of claim 48 wherein:

the controller is configured to send a plurality of second control signals

5 identifying formatting for the communication, at least one second control signal to each of the access protocol formatter, the framing formatter, and the signal formatter;

10 the access protocol formatter is configured to receive a first one of the second control signals and, in response, to format the communication for the access protocol format;

the framing formatter is configured to receive a second one of the second control signals and, in response, to format the communication for the framing format; and

15 the signal formatter is configured to receive a third one of the second control signals and, in response, to format the communication for the signal format.

51. The system of claim 48 further comprising a network interface and a service hub wherein the controller is configured to receive another control signal from at least one member of a group comprising the service hub and the network interface, the 20 control signal identifying the selected access technology, and to control removing the formatting from the communication according to the access technology.

52. The system of claim 48 further comprising a network interface and a service hub wherein the controller is configured to generate another control signal to at

least one member of a group comprising the service hub and the network interface, the control signal identifying the selected access technology with which the communication was formatted and via which the communication is to be transmitted.

53. The system of claim 48 wherein the communication is a received communication and the access protocol formatter is configured to remove access protocol formatting for a selected access protocol from the received communication.

54. The system of claim 53 wherein the access protocol formatter further is configured to transmit another control signal to the controller identifying the selected access protocol of the received communication.

10 55. The system of claim 54 wherein the communication is an outgoing communication and the access protocol formatter is configured to format the communication for a selected access protocol.

15 56. The system of claim 53 wherein the communication is a received communication and the framing formatter is configured to remove the frame formatting from the received communication.

57. The system of claim 56 wherein the framing formatter further is configured to transmit another control signal to the controller identifying the frame formatting of the received communication.

20 58. The system of claim 53 wherein the communication is an outgoing communication and the frame formatter is configured to format the communication for a selected frame format.

59. The system of claim 53 wherein the communication is a received communication and the signal formatter is configured to remove the signal formatting from the received communication.

60. The system of claim 59 wherein the signal formatter further is
5 configured to transmit another control signal to the controller identifying the signal formatting of the received communication.

61. The system of claim 53 wherein the communication is an outgoing communication and the signal formatter is configured to format the communication for a selected signal format.

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62. A method for accessing a plurality of access technologies comprising:

communicating with a transceiver and a premises device using the plurality of access technologies;

5 receiving a communication and dynamically determining an access technology type for the communication from among the plurality of access technologies;

reformatting the communication for another access technology type; and transmitting the communication.

10 63. The method of claim 62 further comprising formatting the communication for at least one member of a group comprising voice service and data service.

15 64. The method of claim 62 further comprising receiving the communication as at least one member of a group a wireline access technology and a wireless access technology.

65. The method of claim 62 further comprising formatting the communication for at least one member of a group comprising a signal format, a frame format, an access standard, an access protocol, and a medium access control emulation.

66 A method for accessing a plurality of access technologies comprising:

configuring a network interface for network access;

configuring a service hub for premises device access;

5 communicating at the network interface and the service hub using a plurality of access technologies;

processing a communication at a central core for a first one of the access technologies;

10 selecting a port at the central core from the network interface or the service hub; and

generating the communication for transmission from the port.

67. The method of claim 66 further comprising:

formatting the communication for the first access technology;

transmitting the communication to the service hub;

15 transmitting a control signal to the service hub identifying the first access technology;

receiving the communication and the control signal at the service hub; and

directing the communication to the port corresponding to the first access technology.

20 68. The method of claim 66 further comprising:

formatting the communication for the first access technology;

transmitting the communication to the network interface;

transmitting a control signal to the network interface identifying the port
corresponding to the first access technology;
receiving the communication and the control signal at the network
interface; and
5 directing the communication to the port corresponding to the first access
technology.

69. The method of claim 66 further comprising:

receiving the communication;
identifying the communication as having the first access technology;
transmitting the communication to the central core;
transmitting a control signal to the central core identifying the first access
10 technology;
receiving the communication and the control signal at the central core; and
formatting the communication from the first access technology to a second
one of the access technologies.

15 70. The method of claim 69 further comprising:

transmitting the communication to the network interface;
transmitting another control signal to the network interface identifying the
port that corresponds to the second access technology;
receiving the communication and the other control signal at the network
20 interface; and
directing the communication to the port corresponding to the second
access technology.

71. The method of claim 66 further comprising:
receiving the communication at the network interface;
identifying the communication as having the first access technology;
transmitting to the central core the communication and a control signal
5 identifying the first access technology; and

receiving the communication and the control signal at the central core; and
formatting the communication from the first access technology to a second
one of the access technologies.

72. The method of claim 71 further comprising:

10 transmitting the communication to the service hub;
transmitting another control signal to the service hub identifying the port
that corresponds to the second access technology;
receiving the communication and the other control signal at the service
hub; and

15 directing the communication to the port corresponding to the second
access technology.

73 A method for accessing a plurality of access technologies comprising:

storing specifications for the plurality of access technologies, each

specification comprising at least one member of a group comprising

5 an access protocol format, a framing format, and a signal format;

retrieving a selected specification for a selected access technology;

processing the selected specification to identify formatting for a communication;

generating at least one control signal identifying the formatting for the

10 communication;

formatting the communication for the access protocol format when

instructed by the control signal;

formatting the communication for the framing format when instructed by

the control signal; and

15 formatting the communication for the signal format when instructed by the

control signal.

74. The method of claim 73 further comprising:

generating another control signal requesting the selected specification for

the selected access technology; and

20 receiving the other control signal and, in response, transmitting the

specification.

75. The method of claim 73 further comprising:

transmitting a plurality of second control signals identifying formatting for the communication, at least one second control signal to each of an access protocol formatter, a framing formatter, and a signal formatter;

5 receiving a first one of the second control signals at the access protocol formatter and, in response, formatting the communication for the access protocol format;

receiving a second one of the second control signals at the framing formatter and, in response formatting the communication for the framing format; and

10 receiving a third one of the second control signals at the signal processor and, in response, formatting the communication for the signal format.